

Product Technical Information

# ARA 01 Active Receive Antenna



# Product Technical Information

## Active Receive Antenna: ARA 01

The Active Receive Antenna (ARA01) is a compact emissions antenna with an antenna factor comparable to a conventional wideband passive antenna such as the Bilog™.

The small size makes the ARA 01 particularly suitable for use in anechoic chambers; however it can also be used on an Open Area Test Site (OATS) or at on-site locations.

The ARA 01 features two sets of interchangeable Dipole Antenna Elements (DAE). The standard set (DAE01) is optimized for 200 MHz to 1 GHz, with usable sensitivity down to 30 MHz. For improved sensitivity between 30 MHz to 300 MHz, the optional DAE02 set is available.



ARA01 with two DAE01 Antennas

### Features

- **Stable**
  - Repeatable measurements
- **Bilog™ equivalent antenna factor**
  - See output measurement graphs
- **30 MHz to 1 GHz range**
  - Most commonly used EMC measurement range
- **Compact and portable**
  - Measurements in confined spaces
  - Measurements where equipment must be hand carried
  - Field testing
- **Low cost**
  - Affordable measurement systems

### Applications

- Radiated emissions measurements in a confined area
- Low cost alternative to passive wideband antenna
- Portable measurement systems

### Specifications

<b>Frequency range</b>	30 MHz to 1 GHz (200 MHz to 1 GHz optimum) using DAE01 antenna elements 30 MHz to 300 MHz (optimum) using DAE02 antenna elements
<b>Output connector</b>	50 Ω BNC jack
<b>Dynamic range</b>	90 dB
<b>1 dB compression</b>	15.4 dBm / 35.5 mW / 1.33 V (in a 50 Ω system)
<b>Antenna factor</b>	See graph below
<b>Temperature stability</b>	<1 dB, at an ambient temperature of 5 °C to 45 °C
<b>Time stability</b>	Typically <1 dB over a 12 month period
<b>Dimensions</b>	34 mm × 34 mm × 150 mm (168 mm including connector) excluding dipole elements
<b>Weight</b>	0.39 kg (including battery)
<b>Power supply</b>	Single 9 V battery (PP3 or equivalent)
<b>Operating time</b>	6.5 hours typical with alkaline cells
<b>Indicators</b>	Power on, low battery

## Manufacturer's calibrations

**CAL08**     **Antenna factor**, 30 MHz to 1 GHz, derived from a calibrated standard.

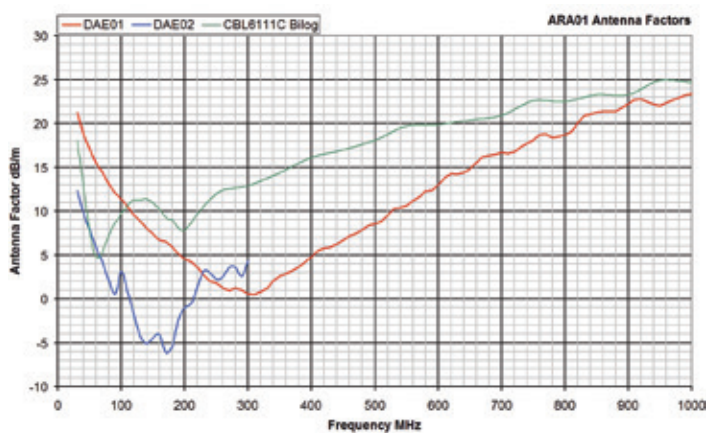
## Standard kits

Part Number	Description	Parts included
<b>ARA01KIT01</b>	Standard ARA 01 active receive antenna kit with pair of 200 MHz to 1 GHz antennas	<ul style="list-style-type: none"> <li>• ARA 01 Active receive antenna</li> <li>• 2×DAE01 – 100 mm long antenna elements</li> <li>• CAL08 – antenna factors, 30 MHz to 1 GHz</li> <li>• Alkaline battery</li> <li>• Case</li> </ul>

## Accessories

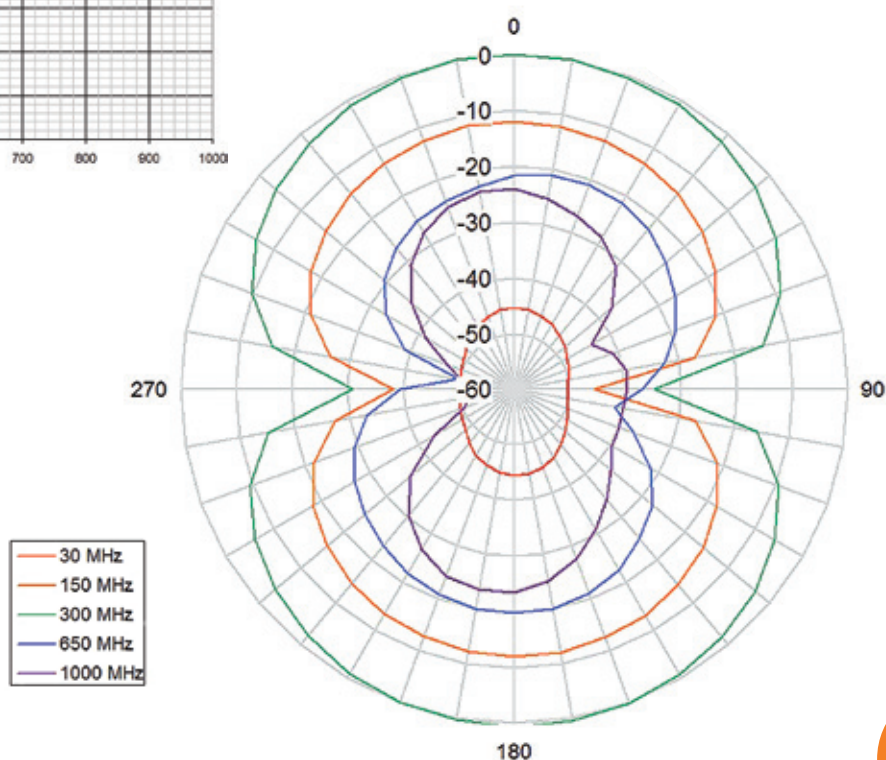
<b>DAE01</b>	200 MHz to 1 GHz (optimum) set of 100 mm long antenna elements
<b>DAE02</b>	30 MHz to 300 MHz (optimum) set of 270 mm long antenna elements

## Active Receive Antenna: ARA 01 Typical characteristics



**Active Receive Antenna  
Radiation Pattern, DAE01 fitted**

Scale in dB





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